

IUBMB Enzyme Nomenclature

EC 3.5.5.1

Common name: nitrilase

Reaction: A nitrile + H₂O = a carboxylate + NH₃

Other name(s): acetonitrilase; benzonitrilase

Systematic name: nitrile aminohydrolase

Comments: Acts on a wide range of aromatic nitriles including (indole-3-yl)-acetonitrile, and also on some aliphatic nitriles, and on the corresponding acid amides. *cf.* [EC 4.2.1.84](#) nitrile hydratase.

Links to other databases: [BRENDA](#), [EXPASY](#), [KEGG](#), [UM-BBD](#), [WIT](#), CAS registry number: 9024-9-2

References:

1. Harper, D.B. Microbial metabolism of aromatic nitriles. Enzymology of C-N cleavage by *Nocardia* sp. (*rhodochrous* group) N.C.I.B. 11216. *Biochem. J.* 165 (1977) 309-319. [Medline UI: [78039839](#)]
2. Thimann, K.V. and Mahadevan, S. Nitrilase. I. Occurrence, preparation, and general properties of the enzyme. *Arch. Biochem. Biophys.* 105 (1964) 133-141.

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